



SNOWPRO™ STUDY GUIDE

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SNOWPRO™ STUDY GUIDE OVERVIEW

This is a self-learning study guide which highlights concepts that may be covered on Snowflake’s SnowPro™ Certification exams.

- SnowPro™ Core Certification
- SnowPro™ Advanced: Architect Certification

This guide does not guarantee certification success.

For an overview and more information on the SnowPro™ Core Certification exam or SnowPro™ Advanced Certification series, please navigate [here](#).

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SNOWPRO™ CORE SUBJECT AREA BREAKDOWN

Snowflake Overview and Architecture: 28%

Snowflake Virtual Warehouses: 18%

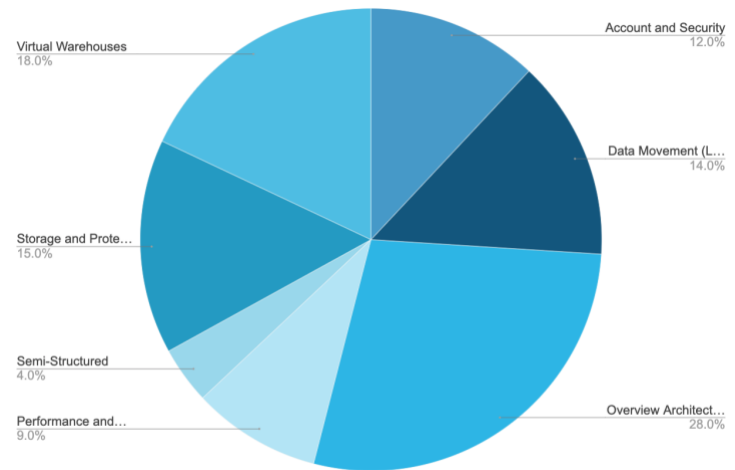
Snowflake Storage and Protection: 15%

Data Movement (Loading and Unloading): 14%

Snowflake Account and Security: 12%

Snowflake Performance and Tuning: 9%

Semi-Structured: 4%



The scope and content of future exams will evolve, and these questions may not reflect updated topics, or the level of detail called upon for future exams and are provided for informational purposes only.

CORE PREREQUISITE KNOWLEDGE

The exam does not cover cloud fundamentals or basics of SQL syntax, but some questions on the exam assume knowledge of these concepts. If you need to brush up on these concepts, search through some computer science textbooks or do some light internet searching.

Database Basic Concepts

- Basic Terminologies Related to Database and SQL
- Tables & Data Types
- Selecting & Manipulating Data
- Views, Store Procedures, Function Concepts
- Security (Authentication & Authorization)

Basics of Cloud Fundamentals

- Types of Cloud Computing & Benefits
- Types of Cloud Services
- Cloud Computing Architecture (Storage & Compute)

SNOWPRO™ ADVANCED CERTIFICATIONS OVERVIEW

The **SnowPro™ Advanced Certification** series consist of five role-based advanced certifications:

SnowPro™ Advanced: Architect

The following Advanced role-based certifications are coming soon:

SnowPro™ Advanced: Database Administrator

SnowPro™ Advanced: Data Engineer

SnowPro™ Advanced: Data Scientist

SnowPro™ Advanced: Data Analyst

SNOWPRO™ ADVANCED, ARCHITECT SUBJECT AREA BREAKDOWN

Snowflake Overview and Architecture: 30%

Snowflake Account and Security: 10%

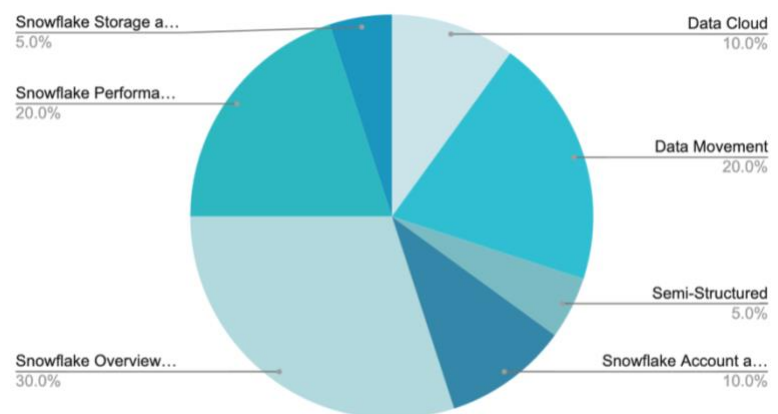
Snowflake Storage and Protection: 5%

Snowflake Performance and Tuning: 20 %

Data Movement: 20%

Semi – Structured: 5%

Data Cloud: 10%



The scope and content of future exams will evolve, and these questions may not reflect updated topics, or the level of detail called upon for future exams and are provided for informational purposes only.

ADVANCED: ARCHITECT PREREQUISITE KNOWLEDGE

Must be SnowPro Core Certified.

Recommended for examinees to have at least 2 years of hands-on practical implementation experience prior to attempting the Advanced: Architect exam.

RECOMMENDATIONS AND USING THE GUIDE

This guide will show the Snowflake topics covered on the exam, each topic will be hyperlinked to their location in the Snowflake Documentation where you can review the topic in more depth. Following the topics will be additional resources consisting of videos, documents, blogs or exercises to help you fully understand Snowflake.

Estimated length of study guide: 8 – 12 hours

Some links may have more value than others, dependent on your experience, same amount of time should not be spent on each link.

The first section focuses on what Snowflake is (pg. 5): *Recommended starting place for individuals new to Snowflake.*

The middle section focuses on Snowflake functionality (pg. 6 – pg. 8): *Recommended starting place for individuals who understand Snowflake but need to confirm fine grain details.*

The last section focuses on Snowflake features (pg. 9- pg. 17): *Recommended starting place for individuals who understand Snowflake and have hands-on-experience with Snowflake.*

Prior to reviewing the study guide, please make sure you have the following setup and can access the following:

- [Snowflake University \(using your Community log in\)](#)
- [Snowflake 30-day free trial Account for Hands-On Lab](#)
- [Hands-On Lab Guide for Snowflake Free Trial](#)
 - [Download .sql file required for the Hands-On Lab](#)

Throughout the guide, we'll refer to module exercises within the Hands-On Lab guide and link to Snowflake University on-demand videos. If you are new to Snowflake, please go through all the [Snowflake Getting Started](#) steps and complete the Hands-On Lab prior to using this exam guide.

SNOWFLAKE OVERVIEW & ARCHITECTURE

Below is a list of various documents, videos and training videos to help get you up to Snowflake speed:

Snowflake Company Overview

- [Snowflake Website](#)
- [About Snowflake](#)
- [Meet the Two Guys Who Built the #1 Cloud Data Platform \(Video\)](#)
- [Reinventing the Data Warehouse \(Video\)](#)
- [Introduction to Snowflake Cloud Data Platform \(Video\)](#)
- [Snowflake University, LevelUp: Snowflake's Key Concepts](#)

How Snowflake is Different

- [Introduction to Snowflake - Key Concepts & Architecture](#)
- [Snowflake Getting Started Documentation](#)
- [Getting Started with Snowflake – Key Concepts \(Video\)](#)
- [Before You Begin](#)
- [See Snowflake in 8 Minutes \(Video\)](#)

Snowflake Editions & Deployments

- [Snowflake University, LevelUp: Snowflake Account Options & Assurances](#)
- [Technology Partners - Amazon Web Services](#)
- [Technology Partners - Microsoft Azure](#)
- [Technology Partners - Google Cloud Platform](#)
- [Snowflake Regions](#)
- [Snowflake Editions](#)

Key Features

- [Overview of Key Features](#)
- [Introduction to Semi-Structured Data](#)
- [Bringing Together Structured and Semi-Structured Data \(Video\)](#)
- [Semi-Structured Data Types](#)
- [Querying Semi-Structured Data](#)
- [Continuous Data Protection](#)
- [Snowflake Fast Clone](#)
- [A Quick Look at Zero-copy Cloning \(Video\)](#)
- [Cloning in Snowflake \(Video\)](#)
- [Using Persisted Query Results](#)
- [Accelerating BI Queries with Caching in Snowflake \(Video\)](#)
- [Top 10 Cool Snowflake Features, #10: Snowflake Query Result Sets Available to Users via History](#)
- [Sharing Data in Snowflake](#)

SNOWFLAKE PRICING & REGIONS

You should understand the differences between Snowflake Editions, pricing and regions:

[Snowflake Editions & Pricing](#)

Snowflake Regions

SNOWFLAKE ARCHITECTURE

You should understand Snowflake's unique multi-cluster, shared data and the three distinct layers:

Database Storage

Query Processing

Cloud Services

Additional Resources:

[Snowflake University, LevelUp: Snowflake's Three Layer Design \(Document + Quiz\)](#)

[Snowflake Architecture, Cloud Services \(Video\)](#)

[Fundamental Data Warehouse Architecture \(Paper\)](#)

INTERFACES & CONNECTIVITY

You should understand a good sense of Snowflake's WebUI and the Connector Ecosystem:

Snowflake WebInterface (UI)

The Snowflake UI is accessed via a URL dedicated to a specific Snowflake Account

	Account Name
AWS US West	<code><account>.snowflakecomputing.com</code>
All other regions on AWS	<code><account>.<region>.snowflakecomputing.com</code>
All regions on Azure	<code><account>.<region>.azure.snowflakecomputing.com</code>
	Hostname

Note: If the account uses Private Link, the account name requires an additional Private Link segment.

[SnowSQL \(CLI\)](#)

[Connector Ecosystem](#)

[Partner Connector Ecosystem](#)

Exercise:

Hands-on Lab Guide for Snowflake

Module 1: Prepare your Lab Environment

Module 2: The Snowflake User Interface & Lab “Story”

Additional Resources:

Quick Tour of the Web Interface (Document + Video)

User Interface Quick Tour (Video)

Snowflake University, Hands on WebUI Essentials (Video, Labs + Project work)

Snowflake University, Level Up: Snowflake Ecosystem (Document + quiz)

Snowflake University, Snowflake User Interface Walkthrough (Video)

Snowflake University, Snowflake Clients and Ecosystem (Video)

Getting Started on Snowflake with Partner Connect (Video)

CATALOG & OBJECTS

You should understand and know Snowflake Catalog & Objects

Database & Schema

Tables

Views

Data Types

DATA SHARING

You should understand the following about Snowflake Data Sharing:

Sharing Configuration & Access Control options

Secure Data Sharing

Providers, Consumers & Reader Accounts

Creating & Managing Shares

Exercise:

Hands-on Lab Guide for Snowflake

Module 9: Data Sharing

Additional Resources:

Data Sharing for Dummies (eBook)

Snowflake University, Data Sharing in Snowflake (Video)

Snowflake University, Hands-On Sharing, Marketplace, & Exchanges Workshop (Video, Labs + Project work)

SNOWFLAKE VIRTUAL WAREHOUSES

COMPUTE

You should understand the following Snowflake concepts about Compute:

- Warehouses & Types
- Warehouse Sizing & Scaling
- Credit Usage
- Warehouse Management
- Warehouse Caching
- Warehouse Monitoring

Additional Resources:

- Tackling High Concurrency with Multi-Cluster Warehouses (Video)
- Snowflake University, LevelUp: Query & Result (Video + Quiz)

SNOWFLAKE STORAGE AND PROTECTION

STORAGE

You should understand the following Snowflake concepts about Storage:

- Micro partitions
- Metadata
- Clustering
- Data Storages – Cost & Retention
- Table Types, File Formats
- Storage Monitoring

Additional Resources:

- Meta Data Archiving with Snowflake (Blog)
- Snowflake University, Level Up: Container Hierarchy (Document + quiz)
- Top 10 Cool Snowflake Features, #7: Snowflake Fast Clone (Blog + video)

CONTINUOUS DATA PROTECTION

You should understand the following about Continuous Data Protection with Snowflake:

- Time Travel, Fail Safe
- Data Encryption
- Security – Network policies
- Multi-Factor Authentication (MFA)
- Federated Authentication & SSO

Exercise:

- Hands-on Lab Guide for Snowflake
- Module 7: Using Time Travel

Additional Resources:

[Snowflake Continuous Data Protection \(White Paper\)](#)
[Snowflake University, Snowflake Backup & Recover \(Video\)](#)

SNOWFLAKE DATA MOVEMENT

DATA LOADING

You should understand how to load data (COPY vs INSERT) and Snowflake's offerings:

- [Stages, file format, pipe](#)
- [Bulk Load using COPY](#)
- [Loading Consideration & Load Management](#)
- [Continuous Load Options – Snowpipe](#)
- [Error handling & Troubleshooting](#)

Exercise:

- [Hands-on Lab Guide for Snowflake](#)
- [Module 3: Preparing to Load Data](#)
- [Module 4: Loading Data](#)

Additional Resources:

- [Getting Started - Introduction to Databases and Querying \(Video\)](#)
- [How to Load Terabytes into Snowflake - Speeds, Feeds and Techniques \(Blog\)](#)
- [Snowflake University, Snowflake Data Loading Best Practices \(Video\)](#)

DATA UNLOADING

You should understand data can be unloaded from Snowflake to either local storage or cloud storage locations:

- [Unloading data from Snowflake to External Cloud Storage \(S3,GCS,AZURE BLOB\)](#)
- [Unloading data from Snowflake to Internal Snowflake Storage](#)
- [Unloading data from Snowflake to Local / Network Drive](#)
- [Data Unloading Considerations](#)

SNOWFLAKE CONNECTOR FOR KAFKA

This is only for the SnowPro Advanced Exam. You should understand data can be loaded into Snowflake tables via the Snowflake Connector for Kafka.

- [Schema of Topics for Kafka Topics](#)
- [Workflow for the Kafka Connector](#)

SEMI-STRUCTURED DATA

You should understand best practices to load and store semi-structured data and the types supported with Snowflake:

Different Formats, Variant Table Type
Native Syntax, Flattening DATA

Hands-on Lab Guide for Snowflake
Module 6: Working with Semi-Structured Data

Additional Resources:

Best Practices for Using Tableau with Snowflake (White Paper)
Easily Loading and Analyzing Semi-Structured Data in Snowflake (Video)

SNOWFLAKE PERFORMANCE & TUNING

PERFORMANCE MANAGEMENT

You should understand best practices for Snowflake performance management and troubleshooting:

Query Performance & Analysis
SQL optimization
Load Testing
Clustering & Materialized Views
Query Profile
Caching

Additional Resources:

Using **Materialized Views** to Solve Multi-**Clustering** Performance Problems
Snowflake University, Level Up: Caching (Video + Quiz)
Snowflake University, SQL Support and Usage in Snowflake (Video)

SNOWFLAKE ACCOUNT AND SECURITY

ACCOUNT MANAGEMENT

You should have an understand the following Snowflake Account Management concepts:

Managing Your Snowflake Account
WAREHOUSE & Storage credit usage
Materialized Views
Auto /Re Clustering
DR & Replication
Information Schema
Differences Between Account Usage and Information Schema

Exercises:

Hands-on Lab Guide for Snowflake

Module 8: Role Based Access Controls and Account Admin

Additional Resources:

[Snowflake Community Administering Snowflake Guide](#)
[Snowflake University, Snowflake Administration Overview](#)

SECURITY

You should understand Snowflake uses role-based security and that roles are the entities to which privileges can be granted and revoked:

[Access Control](#)
[Role Hierarchy and Privilege Inheritance](#)
[Multi-Factor Authentication \(MFA\)](#)
[Data Encryption](#)
[Network Security & Policies](#)
[Federated Authentication & SSO](#)

[Snowflake Editions](#)

Exercises:

[Hands-on Lab Guide for Snowflake](#)
[Module 8: Role Based Access Controls and Account Admin](#)

Additional Resources:

[Snowflake Security Overview \(Video\)](#)
[Data Protection with Time Travel in Snowflake \(Video\)](#)
[Crucial Security Controls for Your Cloud Data Warehouse \(Video\)](#)
[Snowflake University, Snowflake Security Overview \(Video\)](#)

Ready to sign up for an exam? Navigate [here](#) to get started.

The information provided in this guide is provided for your internal purposes only and may not be provided to third parties. IN ADDITION, THIS STUDY GUIDE IS PROVIDED “AS IS”. NEITHER SNOWFLAKE NOR ITS SUPPLIERS MAKES ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, TITLE, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT.